

REMARKS

By this Amendment, claims 1-3, 5, 7, 11, 12 and 15 are amended, and claims 4, 6, 9 and 10 are canceled, without prejudice to or disclaimer of the subject matter found therein. Accordingly, claims 1-3, 5, 7, 11 and 12-15 are pending in this application. No new matter is added. Reconsideration of the application is respectfully requested.

I. Allowable Subject Matter

Applicants gratefully acknowledge that the Office Action indicates that claims 11-15 include allowable subject matter. Claims 11, 12 and 15 are amended only to correct informalities, and thus are not narrowed by such amendments.

II. Rejections Under 35 U.S.C. §§102(b) and 103(a)

The Office Action rejects claims 1 and 4-10 under 35 U.S.C. §102(b) over U.S. patent No. 3,572,100 to Grolman et al. (Grolman); and rejects claims 2 and 3 under 35 U.S.C. §103(a) under 35 U.S.C. §103(a) over Grolman in view of U.S. Patent No. 5,092,334 to Nishio et al. (Nishio). Applicants traverse the rejections. The rejections are moot with respect to canceled claims 4, 6, 9 and 10, and respectfully traversed with respect to claims 1-3, 5 and 7. No new matter is added. Reconsideration of the application is respectfully requested.

Grolman does not teach or suggest a non-contact type tonometer including "measurement timing determination means which determines a measurement timing based on the detected pulsation," as recited in independent claims 1 and similarly recited in independent claim 5. Further, Grolman does not teach or suggest a non-contact type tonometer including "mode selection means which selects one of a first mode for obtaining a measurement value of the intraocular pressure at a measurement timing corresponding to at least one of a peak point a phase of pulsation, a bottom point the phase of pulsation and an arbitrary point in the phase of pulsation and a second mode for obtaining a measurement value of the intraocular pressure at a first measurement timing corresponding to the peak

point and a measurement value of the intraocular pressure at a second measurement timing corresponding to the bottom point," as recited in independent claim 1.

The Office Action generally asserts that Grolman teaches a measurement timing determination means and a mode selection means. See col. 2, lines 59-68, col. 3, lines 17-62, and col. 5, lines 3-14. Notwithstanding these assertions, Grolman does not teach or suggests a measurement timing determination means that determines a measurement timing based on a detected pulsation, and a mode selection means that selects at least one mode for obtaining a measurement value of the intraocular pressure based on at least one selected point.

Grolman teaches, in Figs. 1 and 2, a synchronizer for an air-puff tonometer including determining a pulse cycle profile 10 by taking readings for various parts of the pulse cycle. See col. 2, lines 59-68. Grolman also teaches that intraocular pressure reading profiles for the left and right eyes of a patient may be represented of dotted lines 18, 20 in Fig. 3. See col. 2, line 69 - col. 3, line 16. Therefore, Grolman teaches a tonometer capable of performing measurement of intraocular pressure based on pulsation.

Grolman also teaches a position selector 36 that programs the synchronizer to fire an air puff at an eye of a patient at a selected time after the pulse of the patient. See Fig. 4, and col. 3, lines 24-29. Although Grolman teaches selection of a particular pulse phase, e.g., 2 in a time divider 49 of Fig. 7, having a peak voltage, the selected phase determines the same part of the pulse cycle in which to fire the air puff regardless of the timing of a trigger signal for the tonometer. See col. 1, lines 53-57, and col. 3, lines 30-52. Grolman does not teach or suggest any means for determining a measurement timing based on a detected pulsation and any means for selecting a mode for obtaining a measurement value of the intraocular pressure at a measurement timing corresponding to at least one point in a phase of pulsation.

Therefore, Grolman does not teach or suggest the non-contact type tonometer of claims 1 and 5.

Nishio does not remedy the deficiencies of Grolman. Nishio teaches a non-contact type tonometer that obtains a measured value of eye pressure from a relation between transfigurations of the eye due to fluid projection and the pressure projecting of the fluid. See Abstract. Nishio also teaches an eye pressure measuring and controlling circuit 30 that obtains a peak value CP of a pulse waveform PW at an eye pressure measuring time t_p . See col. 6, lines 40-46. Therefore, similar to Grolman, Nishio teaches a tonometer capable of performing measurement of intraocular pressure based on pulsation.

Nishio does not teach or suggest a any measurement timing determination means that determines the eye pressure measuring time t_p based on a detected pulse waveform PW. Further, Nishio does not teach or suggest modes not teach or suggest any means for selecting a mode for obtaining a measurement value of the intraocular pressure based on a measurement timing corresponding to at least one selected point in a phase of the pulsation PW. Because Nishio does not remedy the deficiencies of Grolman discussed above, Grolman and Nishio do not, alone or in combination, teach or suggest the non-contact type tonometer of claims 1 and 5.

In the non-contact type tonometers of claims 1 and 5 accordingly, a measurement timing determination means may determine a measurement timing based on a detected pulsation, and a mode selection means may select at least one mode for obtaining a measurement value of the intraocular pressure based on at least one selected point.

For example, in Fig. 5, a control part 20 may sample pulsation waveforms signals for a preset sampling time T_s . See page 13, lines 10-19. From the sampling data, the control part 20 determines a phase and a period of a subsequent pulsation. See page 13, line 25 - page 14, line 1. Afterwards, a periodic timing S2 of execution of measuring intraocular pressure may be determined. See page 14, lines 1-2.

The measurement timing S2 may be determined by as a timing shifted back from the timing of a point P in the pulsation phase by an applanation detection time T_{apl} , which is a time required from an output of an solenoid to applanation of a cornea EC by blowing compressed air. See page 14, line 15 - page 15, line 20. Therefore, the steps of detecting pulsation and measuring intraocular pressure are separated to determine periodic measurement timing, corresponding to a subsequent pulsation of an examinee, based on a previously detected pulsation. See page 17, lines 22-26. As a result, even if pulsation cannot be subsequently detected, an intraocular pressure measurement at an intended pulsation phase point may be detected. See page 17, line 27 - page 18, line 10. Grolman and Nishio do not teach or suggest such features or provide such advantages.

For at least the reasons discussed above, claims 1 and 5 are patentable over and would not have been rendered obvious by Grolman and Nishio, alone or in permissible combination. Claims 2, 3, and 7 variously depend from claims 1 and 5, and thus also are patentable over and would not have been rendered obvious by Grolman and Nishio, alone or in permissible combination, for at least the reasons set forth above, as well as for the additional features they recite.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3, 5, 7, 11 and 12-15 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Petition for Extension of Time

Date: February 21, 2006

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